Montana Department of Natural Resources and Conservation
Water Resources Division
Water Rights Bureau

ENVIRONMENTAL ASSESSMENT
For Routine Actions with Limited Environmental Impact

Part I. Proposed Action Description

1. *Applicant/Contact name and address*: K. Gordon Cross, PO Box 296, Whitefish MT 59937

2. *Type of action*: Application for Beneficial Water Use Permit 76LJ 30066293

3. *Water source name*: Groundwater well

4. *Location affected by project*: NE¼ of Section 22, Township 30N, Range 21W, Flathead County, 4 ½ miles southeast of Whitefish

5. *Narrative summary of the proposed project, purpose, action to be taken, and benefits*: The DNRC shall issue a water use permit if an applicant proves the criteria in 85-2-311 MCA are met.

   The applicant proposes to divert water from the groundwater, by means of a 602 foot well from the Flathead Valley's deep alluvial aquifer, from March 15 through November 15 at 680 GPM (1.5 CFS) up to 575.62 AF, from a point in the SE¼NE¼NE¼ of Section 22, Township 30N, Range 21W, for fishery ponds and irrigation use from March 15 through November 15. The Applicant proposes to irrigate 77 acres of alfalfa and 23 acres of orchard. As part of this permaculture project, there will also be a series of ponds that will be used for fish. The place of use is generally located in the NE¼ of Section 22, Township 30N, Range 21W, Flathead County, 4 ½ miles southeast of Whitefish. The proposed project is located approximately 3/4 miles from the Whitefish River to the west and Trumble Creek to the east and 2 miles from the Flathead River.

6. *Agencies consulted during preparation of the Environmental Assessment: (include agencies with overlapping jurisdiction)*

   Montana Natural Heritage Program
   Natural Resources and Conservation Service soil maps
   Montana Department of Environmental Quality
   United States Fish and Wildlife Wetland Mapper
   Department of Fish, Wildlife and Parks

Part II. Environmental Review

1. Environmental Impact Checklist:

PHYSICAL ENVIRONMENT

WATER QUANTITY, QUALITY AND DISTRIBUTION

Water quantity *- Assess whether the source of supply is identified as a chronically or periodically dewatered stream by DFWP. Assess whether the proposed use will worsen the already dewatered condition.*

Determination: Depletions from this groundwater diversion may occur along the Flathead River or Flathead Lake with neither being identified as chronically or periodically dewatered by DFWP.

Water quality *- Assess whether the stream is listed as water quality impaired or threatened by DEQ, and whether the proposed project will affect water quality.*

Determination: Depletions from this groundwater diversion may occur along the Flathead River or Flathead Lake. Flathead Lake is listed by the DEQ as having aquatic life as an impaired use with further data needing to be collected. This impairment seems to be caused by a mixture of sources including upstream impoundments, atmospheric deposition, unspecified urban stormwater and municipal point source discharges. These probable sources bring mercury, nitrogen, phosphorus, polychlorinated biphenyls and sedimentation/siltation to the source. It would seem that this appropriation from groundwater involving only depletions to these sources from pumping from the deep alluvial aquifer would not have a significant impact.

Groundwater *- Assess if the proposed project impacts ground water quality or supply. If this is a groundwater appropriation, assess if it could impact adjacent surface water flows.*

Determination: It was determined that the Flathead Deep Alluvial aquifer is not hydraulically connected to nearby surface sources of the Whitefish River and Trumble Creek. There is a probable connection to the Flathead River and/or Flathead Lake. Depletions to these sources have been shown to be available through the permit process.

DIVERSION WORKS *- Assess whether the means of diversion, construction and operation of the appropriation works of the proposed project will impact any of the following: channel impacts, flow modifications, barriers, riparian areas, dams, well construction.*

1. *Determination*: The proposed means of diversion is a well constructed by Casey Olson of Oh Drilling (MT License #WWC-646) in the deep alluvial aquifer to a depth of 602 feet and static water level at 44 feet bgs at time of 18-hour drawdown test. A submersible, 460 volt, 50 HP Franklin variable speed pump will supply water through a McCrometer flow meter to an underground irrigation line approximately ¾ mile long. Spur lines looping through the proposed project measuring 6 to 8 inches in diameter and 2,500 feet long will distribute water to the ponds and irrigation system with 4-inch standpipes inserted every 300 feet along these new lines. Each of the 5 ponds will be filled via a 6-inch line that feeds a manifold housed in a concrete vault. The manifolds feeds three 2-inch float valves that will be set at exact water levels. Hand operated gate valves in place before each float valve will allow the flows to be regulated to

balance the system even though each float valve is capable of producing 158 GPM at 55 psi; the system operation pressure.

Water from the permitted pit and the proposed well are tied into the same underground irrigation distribution system with valves in-place that can isolate the water from the pit. Risers on the system will be approximately 280 feet apart. The system is pressurized and the pumps will be activated when the loss of pressure is sensed as a valve is opened. Boom sprinklers and mobile guns will be used to disperse water over the land. Hand lines will be used to extend from the risers to the guns with sprinkler heads capable of dispersing 12 GPM each. The guns will produce 135 GPM at the operating pressure of 55 psi. A full line of sprinkler heads (44 total) and a gun would produce approximately 663 GPM (44 * 12 GPM + 135 GPM). Pump curve and sprinkler/gun specifications were included in application.

UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES

Endangered and threatened species *- Assess whether the proposed project will impact any threatened or endangered fish, wildlife, plants or aquatic species or any "species of special concern," or create a barrier to the migration or movement of fish or wildlife. For groundwater, assess whether the proposed project, including impacts on adjacent surface flows, would impact any threatened or endangered species or "species of special concern."*

Determination: The Montana Natural Heritage Program was contacted to determine if there are any threatened or endangered fish, wildlife, plants or aquatic species or any "species of special concern", that could be impacted by the proposed project. They identified the following animal and plant species that are threatened, or have special status, that are located regionally: Great Blue Heron, Bobolink, Westslope Cutthroat Trout, Pygmy Whitefish, Bull Trout, Lake Trout, Deer Indian Paintbruch, Latah Tule Pea and Aloina moss. These species are found throughout this region and not necessarily at this particular spot. No immediate impact.

Wetlands *- Consult and assess whether the apparent wetland is a functional wetland (according to COE definitions), and whether the wetland resource would be impacted.*

Determination: There appears to be no functional wetland in the area of proposed place of use.

Ponds *- For ponds, consult and assess whether existing wildlife, waterfowl, or fisheries resources would be impacted.*

Determination: Ponds will be used for a permiculture setting for agriculture as well as for fisheries. Wildlife will probably benefit from having access to the ponds. DFWP will need to be notified to issue a license to stock said ponds per their regulations.

GEOLOGY/SOIL QUALITY, STABILITY AND MOISTURE *- Assess whether there will be degradation of soil quality, alteration of soil stability, or moisture content. Assess whether the soils are heavy in salts that could cause saline seep.*

Determination: The majority of the soil in the area is Kiwanis loam with a 0 to 3 percent slope. This well drained soil has a transmittal capacity of moderately high to high and is considered

nonsaline. There will be a disruption in the soil as the ponds are created. Once the project is complete, the area should benefit from this use of the land.

VEGETATION COVER, QUANTITY AND QUALITY/NOXIOUS WEEDS - *Assess impacts to existing vegetative cover. Assess whether the proposed project would result in the establishment or spread of noxious weeds.*

Determination: The establishment and nurturing of noxious weeds would not be in the best interest of the Applicant. Applicant seems to be willing to put forth a lot of time and money to see this project complete and productive.

AIR QUALITY - *Assess whether there will be a deterioration of air quality or adverse effects on vegetation due to increased air pollutants.*

Determination: Disruption of the soil in the creation of the ponds could create large amounts of dust in the air around project site.

HISTORICAL AND ARCHEOLOGICAL SITES - *Assess whether there will be degradation of unique archeological or historical sites in the vicinity of the proposed project if it is on State or Federal Lands.*

Determination: NA – project not located on State or Federal Lands.

DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AND ENERGY - *Assess any other impacts on environmental resources of land, water and energy not already addressed.*

Determination: No other impacts were identified during this EA.

HUMAN ENVIRONMENT

LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS - *Assess whether the proposed project is inconsistent with any locally adopted environmental plans and goals.*

Determination: No inconsistency noted.

ACCESS TO AND QUALITY OF RECREATIONAL AND WILDERNESS ACTIVITIES - *Assess whether the proposed project will impact access to or the quality of recreational and wilderness activities.*

Determination: No impact expected.

HUMAN HEALTH - *Assess whether the proposed project impacts on human health.*

Determination: No impact expected.

PRIVATE PROPERTY - *Assess whether there are any government regulatory impacts on private property rights.*
*Yes___ No **XXX** If yes, analyze any alternatives considered that could reduce, minimize, or eliminate the regulation of private property rights.*

Determination:

OTHER HUMAN ENVIRONMENTAL ISSUES - *For routine actions of limited environmental impact, the following may be addressed in a checklist fashion.*

Impacts on:

(a) *Cultural uniqueness and diversity?* A new technique in agriculture that is not commonly seen around this area

(b) *Local and state tax base and tax revenues?* None

(c) *Existing land uses?* Land has historically been used for farming

(d) *Quantity and distribution of employment?* None

(e) *Distribution and density of population and housing?* No change

(f) *Demands for government services?* No change

(g) *Industrial and commercial activity?* No change

(h) *Utilities?* Electricity for pump in well

(i) *Transportation?* No change

(j) *Safety?* No change

(k) *Other appropriate social and economic circumstances?* No change

2. ***Secondary and cumulative impacts on the physical environment and human population:***

Secondary Impacts None identified

Cumulative Impacts None identified

3. ***Describe any mitigation/stipulation measures:*** None identified

4. ***Description and analysis of reasonable alternatives to the proposed action, including the no action alternative, if an alternative is reasonably available and prudent to consider:*** No reasonable alternatives identified

PART III. Conclusion

1. Preferred Alternative

Project should be completed as explained in application

2 Comments and Responses

3. *Finding:*

Yes___ No **XXX** *Based on the significance criteria evaluated in this EA, is an EIS required?*

If an EIS is not required, explain why the EA is the appropriate level of analysis for this proposed action: Other agencies will regulate.

Name of person(s) responsible for preparation of EA:

Name: Kathy Olsen
Title: Water Resource Specialist
Date: May 6, 2014